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ABSTRACT

In a tight labor market, the whole educational system must help prepare students for work, and part of that preparation must be economics education. The goal of economics education is to help develop in young people an ability to understand and make reasoned judgments about major economic questions facing society and themselves as members of that society. Economics education creates responsible citizens and effective decision makers. Studies have shown that the basic concepts of economics can be taught in secondary school or even earlier grades. Other factors to be considered in choosing when to teach economics include socioeconomic status and motivation. Three basic strategies for integrating economics instruction in vocational education are academic, vocational, or a combination. Each has advantages and disadvantages. Schools should use all resources at their disposal to teach economics. Resources could include Junior Achievement or other business or civic groups; colleges, universities, or other educational institutions as sources of theoretical expertise; and SCORE (Service Corps of Retired Executives) and similar agencies for business expertise. Some ideas that can be used to incorporate economics into vocational education include involving the entire class in making a product or providing a needed service. (14 references) (YLB)

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From the Model T to Theory Z: Teaching Economics in Vocational Education

Beset by rising costs and flat productivity in a world in which its strongest allies are its toughest competitors, industrial America is on a quest for excellence -- and the ripples are being felt from the boardroom to the assembly line. Challenged by such models as the disciplined work ethic of the Germans and the familial manager-worker relationships of the Japanese, American business is reopening the question of what makes workers produce quality in quantity. And as in the past, concerns that surface in the boardroom echo in the vocational education classroom.

During the first half of the century, America's education system prepared entrants to the work force in much the same assembly-line fashion that industry used to stamp out products from cookie cutters to cars. Schools marched students through subjects largely in isolation and in sequence, with perhaps only a graduation oration to remind them of the roles they would play as members of a community and a family. Vocational education's contribution was to provide job-specific knowledge and skills, leaving general knowledge to academic education and the formation of attitudes to other institutions, including family and church.

In the work place of the '80s, times have changed. Due to soaring prices of capital and labor, production costs are higher in the United States than anywhere else in the world. To compensate and thus compete, employers are demanding more production from their employees. And managers are placing more responsibility on their workers than ever before. Yesterday's assembly-line nut tightener today supervises the output of robots, making split-second decisions that affect the quality of the product being created.

In fact, from factories to offices, developments such as quality circles reflect a growing sense of responsibility for the product -- the whole product. Work rules increasingly include a flexibility that encourages workers to take personal responsibility for whatever task needs to be accomplished. Managers, confronted with the cost of high turnover, seek to keep experience and expertise in house by screening new employees for "promotability."

But the move to wholeness is not simply being handed down from the boardroom. Workers, enjoying a sense of self-worth in identification with quality products and services, no longer are satisfied to be cogs in a great wheel. They are demanding meaningful work in a context that shows them how they fit into the organization's plans and goals.

Developments in the work place have struck a responsive chord in vocational education, which has accepted a broader mandate. Recognizing that people learn better in context, vocational education is beginning to teach more than job-specific skills. An examination of exemplary curricula shows that many of today's vocational educators teach students "employability" -- the skills to perform a job, a knowledge of their career field, and an attitude toward work that will make them productive and valued members of the work force. Fewer 16- to 25-year-olds are entering the work force, so the need to prepare young men and women to make good career choices grows increasingly important -- to the society and to employers, who no longer enjoy the luxury of being as selective in hiring.

Small-town America often offered young people a first-hand exposure to the institution of work. In chores on the family farm or helping out at the corner store, skills could be passed down from adult to child. Part-time jobs provided clear lessons that customer satisfaction affects the profit and loss statement. However, for many children, the America of the '80s does not offer the same introduction to the meanings and values of work, and parents, educators and business leaders have turned to vocational education to bridge the gap.

Vocational education is an ideal format to tie academic education to the world of work. Math becomes highly relevant to the agriculture student when the instructor shows that it takes addition, subtraction, multiplication and division to figure the amount of seed, fertilizer, fuel and time needed to produce a crop. English is vital to a tool-and-die student who is trying to read the manual that accompanies a piece of machinery honed to fine tolerances. Another traditionally "academic" subject that readily lends itself to vocational education is economics.

In today's swiftly changing world, economics is growing more important to a complete vocational education. To ensure that they find a job and keep it, students need to understand the economics of the career field they want to enter. In a large firm, employees who do not understand the economics of their industry may feel unappreciated because they cannot see the usefulness

of their contribution. Employee disenchantment often leads to a decline in productivity. Employers grow concerned when employees do not understand the economics of their work place because those employees rarely appreciate the links between productivity, profitability and job stability. Employees who appreciate the economics of their work are more valuable to themselves, their families and their employers because they are adaptable, able to alter they way they work, change jobs or even switch careers when economics dictates it.

Despite the advantages, many graduates of secondary schools do not understand economics. An Amway Corporation publication states that the "eighth wonder of the world is the American economic system, and the ninth is the American people's ignorance of it."[1] Podesta, in a summary of several studies, writes that half the high school students in the United States did not know that the American economy was founded on free enterprise.[2]

The purpose of this paper is fourfold:

- To show the need for economics in vocational education.
- To discuss at what age economic education can begin.
- To discuss the proper setting for economic education.
- To suggest ways economics can be introduced into the vocational education curriculum.

WHY?

In a 1981 article, Darcy discusses "employment-related needs" for people seeking to make the transition from school to work.[3] According to Darcy, one need that must be met is "world-of-work economic education and information." This means understanding not only the large institutions of an economy but such functions as production, consumption and distribution of income. This knowledge helps people understand their roles as producers as well as consumers. Understanding their roles as producers helps workers understand the need for career planning, labor market knowledge, and other career issues. With that knowledge, workers can improve their socioeconomic standing, becoming more mobile and productive in the economy.

Improving the quality of the worker, especially the young worker entering the workforce, is vital to increasing the productivity of businesses in Indiana. Businesses in Indiana need to improve productivity to avoid losing ground to national and international competitors. In a tight labor market, the whole educational system needs to help prepare students for work, and part of that preparation must be economic education.

WHAT?

What is economic education? Is it learning how to balance a checkbook or how to comparison shop? Is it a forum in which to study the differences among free enterprise, communism, socialism, feudalism and other economic systems? In A Framework for Teaching Economics: Basic Concepts, Bach, Calderwood, and Saunders describe what they believe the goal of economic education should be: "... (Its) purpose is to help to develop in young people, by the time they graduate from high school, an ability to understand and make reasoned judgments about major economic questions facing society and themselves as members of that society. Only in that way can they become responsible citizens and effective decision makers."[4]

Bach, Calderwood, and Saunders point to six keys to developing economic understanding:

- Practicing a reasoned approach. Students need to learn that economic issues can be analyzed effectively only by replacing emotional judgments with an objective, systematic, reasoned approach.
- Mastering the basic concepts. Students need a set of basic concepts to give them the capacity to think about economic issues in a reasoned way.
- Possessing an overview of the economy. Students need a simple overview of how the economic system works to provide a structure for examining issues.
- Identifying the issues. Students need the knowledge and skills to recognize the economic issues they are likely to encounter as consumers, workers, citizens and employers.
- Applying these elements to particular issues. Students need practice -- first on simple and then on more complex real-world issues -- in using the reasoned approach, working with the basic concepts, and identifying the issues. The ultimate test is their ability to apply these elements to a range of emerging issues.
- Reaching decisions on economic issues. Students need to learn how to take the final step of forming their own judgments on economic issues. This requires making decisions based on their analysis of the issues, tempered by their own values. This last step includes knowing when it may be impossible to reach a judgment.[5]

Buckles details the basic concepts of economics and its categories in the table below.

Basic Concepts of Economics[6]

Fundamental Economic Concepts	International Economic Concepts
Scarcity	Absolute and comparative advantage and barriers to trade
Opportunity cost and trade-offs	Exchange rates and the balance of payments
Productivity	International aspects of growth and stability
Economic systems	
Economic institutions and incentives	
Exchange, money and interdependence	

Microeconomic Concepts	Macroeconomic Concepts
Markets and prices	Gross national product
Supply and demand	Aggregate supply
Competition and market structure	Aggregate demand
Income distribution	Unemployment
Market failures	Inflation and deflation
The role of government	Monetary policy
	Fiscal policy

Measurement Concepts and Methods	Broad Social Goals
Tables	Economic freedom
Charts and graphs	Economic efficiency
Ratios and percentages	Economic equity
Percentage changes	Economic security
Index numbers	Full employment
Real vs. nominal values	Price stability
Averages and distributions around the average	Economic growth

WHEN?

Studies have shown that the basic concepts of economics can be taught to students in secondary school or even earlier grades. Strauss, in a 1952 study, discovered that 6-year-old children can grasp the concept of profits.[7] He discovered that children were aware that store owners sold goods to make money. A 1976 study by Furth, Baur, and Smith concluded that children between the ages of 7 and 9 develop an understanding that store owners purchase the goods that are in their stores.[8]

Kourilsky cites 22 studies showing that elementary school children, beginning in kindergarten, can "master economic decision making and some analytical concepts when provided with developmentally appropriate instructional intervention."[9] In a summary of study results, Dawson determined that any school-age student can understand economics.[10]

One concern cited by numerous authors is that factors other than age affect the speed at which economics can be learned. Such factors include socioeconomic status and motivation. These factors must be considered when developing a program to include economics in vocational education.

WHERE?

There are three basic strategies for placing economics instruction in vocational education:

Academic. A separate but required academic class in economics taught by an economics or social studies teacher.

Vocational. Economic ideas and concepts included with vocational education instruction in the vocational education classroom.

Combination. Reinforcing classroom instruction in economics with application ideas in vocational education.

Each of the three has advantages and disadvantages, as illustrated below:

Method	Advantages	Disadvantages
Academic	Teacher trained in economics.	Teacher not trained in vocational education.
	Structured format. Can systematically cover wide range of issues without tying them to specific occupations.	Unable to tie economic issues to vocational training.
	One teacher. No problem with conflicting theories or viewpoints being taught.	Communication problems between academic and vocational teachers can cause students to fail to see correla-
Vocational	Teacher trained in vocational education.	Teacher not sufficiently trained in economics.
	Easier to relate economics to vocation taught.	Teacher may neglect or ignore economic instruction if interest in economics is lost.
Combination	Each instructor gives economic insights that relate to a skill.	
	Economics and vocational teachers combine to instruct students in economics, demonstrating the importance of economic knowledge in any vocation.	Too many people teaching economics, causing confusion for students.
		Lack of communication, causing teachers to emphasize different issues, confusing students.

Communication among teachers as well as teachers and administrators is important, no matter which system is used.

HOW?

Schools should use all the resources at their disposal to teach economics. Resources could include Junior Achievement or other business or civic groups that offer personnel, equipment, space, or financial incentives. Colleges, universities or other institutions of higher education are potential sources of theoretical expertise. Business experience can be "borrowed" through SCORE (Service Corps of Retired Executives) and similar agencies.

Federal, state and local government agencies may offer grants for which school programs could qualify.

Wright, describing the contribution that industrial arts education has made to economic education, offers ideas that can be used to incorporate economics into vocational education:

Involve the entire class in making a product or providing a needed service. Allow the class to choose the product or service, based on a perceived need in the marketplace. Let the class decide whether the materials needed are readily available.

The project teaches students that:

- The need to meet the consumer's demand for goods and services is critical.
- The choice of a product or service to offer is based in part on the availability of raw materials.
- Resources are limited, while demand for certain goods and services may be nearly unlimited.
- Choosing one product or service costs them the possibility of producing another product or service at that time (opportunity cost).
- Advertising and marketing may be critical to the success of the project.

To reinforce the economic lessons, the class could be involved in these financial aspects:

- Create an invoice listing the materials needed for the product or service. Ask students to calculate the material cost.
- Calculate the number of worker hours necessary to create the product or service and determine the labor cost, including hypothetical wages, taxes and benefits.
- Determine capital, administrative, marketing and any miscellaneous costs.
- Introduce the concept of value added by showing the costs required to change a raw material into a product or service.
- Discuss the amount of profit to add to the cost of the product or service, while ensuring that the price is competitive.
- Set the price of the product or service.

Wright also discusses outside issues that could affect the project. Using the energy crisis and personnel matters, including unionization, he illustrates ways that economic education can be incorporated into vocational education.[11]

At Homewood-Flossmoor High School, Flossmoor, Ill., seniors are required to take a two-semester economics course. The course covers macroeconom-

ics, microeconomics, and consumer education. The seniors work on two projects to reinforce the economic basics and help them apply economic logic to real life. Those are the consumer project and the business project.

In the consumer project, the students choose careers, calculate their income and design an annual household budget. Their job choices must be based on research they conduct through computer and print references. They also may interview people working in their prospective career field. Then they estimate costs for housing, transportation, food, clothing, insurance, and other living costs based on actual data from their community and develop their budgets for the year.

The business project helps students learn about businesses, investments, the stock market and related issues. It employs a stock market game to help teach financial decision making. Students choose a corporation from a stock exchange and write the firm for its annual report. They analyze the report to better understand the inner workings of the corporation. Then they prepare a report, detailing the history of the firm and describing its products or services. A second student report provides an account of the financial condition of the firm and a recommendation on whether to purchase stock. Then the students are given $100,000 in game currency to invest. They may add to or subtract from their portfolios, using real stock market tactics such as buying on margin and selling short.

Homewood-Flossmoor students were given pre- and post-tests to measure the effectiveness of the course. The test showed that student scores rose from 228 percent to 276 percent over the national average for the tests.[12]

Successful economic education programs seem to have two elements in common -- interaction and communication. The first is to make the class more interesting, the other to make sure that the teachers and administrators involved have the same goals. Interaction -- among students, among students and teachers, and among students and community members -- is a way to breathe life into the "dismal science." Students in vocational education are obviously interested in their future careers, and offering them the opportunity to learn the economics of their career field should be a strong motivator. Good communication is a key to ensuring that the instructors are teaching toward the same goal. That goal should be that every student masters the economic basics, gains the ability to use economic logic, and leaves with the skill to apply economic logic to career and life decisions.

The study of economics in vocational education classes cannot succeed, of course, unless vocational education instructors are qualified to teach the subject. There is a shortage of qualified economics teachers at the secondary school level nationwide. Thus, vocational school administrators will need to help teachers gain access to the training they require to ensure that students enjoy a uniformly high level of economics instruction.

Conclusion

> In the initial issue of the Journal of Economic Education, Boulding summed up the need for economic education: "An accurate and workable image of the social system in general, and the economic system in particular, is ... increasingly essential to human survival. Economic education, therefore, along with education in other aspects of the social system, may well be one of the most important keys for man's survival. In a complex world, unfortunately, ignorance is not likely to be bliss, and a society in which important decisions are based on fantasy and folk tales may well be doomed to extinction."[13]

Eleven years ago, Dun's Review stated that "each year, close to 3 million students graduate from U.S. high schools, most of them deplorably illiterate in the fundamentals of everyday economics."[14] Today, this fact has not changed significantly. Without quick action, the economic system in the United States will have an increasingly difficult time keeping up with foreign competition. Without the same quick action, Indiana's economic system will have a difficult time matching that of other states. Strong competition and tight labor markets mean Indiana vocational and technical schools must offer students a high-quality economic background to help ensure that they enter the work force on the path to productivity and profit.

Sources

1. Amway Corporation. Choice. Stevensville, Mich.: Educational Service, 1975, iii.

2. Podesta, Aldo C. "The American Economic System ... and Your Part in it." Vital Speeches of the Day, Vol. 43, 1976, 111.

3. Darcy, Robert L. "Doing What Schools do Best: An Economic Perspective." Viewpoints in Teaching and Learning, Vol. 57, No. 4, Fall 1981, 17.

4. Bach, G.L., Calderwood, James D., and Saunders, Phillip. A Framework for Teaching Economics: Basic Concepts. New York: Joint Council on Economic Education, 1977, 2.

5. Ibid., 4.

6. Buckles, Stephen. "What Is-and Isn't-Economic Education." Theory into Practice, Vol. 26, No. 3, 1987, 164-165.

7. Strauss, A.L. "The Development and Transformation of Monetary Meanings in the Child." American Sociological Review, Vol. 17, 1952, 275-284.

8. Furth, H., Baur, M., and Smith, J. E. "Children's Conception of Social Institutions: A Piagetian Framework." Human Development, Vol. 19, 1976, 351-374.

9. Kourilsky, Marilyn. "Children's Learning of Economics: The Imperative and the Hurdles." Theory into Practice, Vol. 26, No. 3, 1987, 198-199.

10. Dawson, G.G. "Research in Economic Education at the Precollege Level." Perspectives in Economic Education, In Hansen, W.L., and Hawke, S.H., eds., 1976, 85-104. (Proceedings in Precollege Economic Education, Feb. 12-14, 1976, New Orleans.)

11. Wright, R. Thomas. "Industrial Arts and Its Contribution to Economic Education." The Contributions of Industrial Arts to Selected Areas of Education. 31st Yearbook. Washington, D.C.: American Council on Industrial Arts Teacher Education, 1982, 190-208.

12. Morton, John. "The High School Economics Course Comes of Age." Theory into Practice, Vol. 26, No. 3, 1987, 206-210.

13. Boulding, Kenneth E. "The Stepchild Too is the Father of the Man." Journal of Economic Education, Vol.1, No. 1, 1969, 10-11.

14. "Keynes Goes to Kindergarten." Dun's Review, Vol. 109, No. 1, 1977, 42.